DRAFT
Decision Notice
for the
Pueblo Ridge Restoration Project

USDA Forest Service
Camino Real Ranger District
Carson National Forest
Taos County, New Mexico

Introduction

This draft decision notice documents the decision and rationale for approving the Pueblo Ridge Restoration Project on the Camino Real Ranger District of the Carson National Forest. The project area is located in portions of Sections 13 through 16 and 23 through 25, Township 25 North, Range 13 East; Sections 7 through 11 and 13 through 32, Township 25 North, Range 14 East; and Sections 7, 18, 19, and 30, Township 25 North, Range 15 East, Taos County, New Mexico Principal Meridian.

This draft decision notice is based on and supported by the May 2020 environmental assessment for the Pueblo Ridge Restoration project. The environmental assessment documents the environmental analysis conducted for the project and is incorporated by reference into this draft decision notice document. The environmental assessment can be viewed at https://www.fs.usda.gov/project/?project=52575.

Purpose and Need

The purpose of the Pueblo Ridge Restoration Project is to improve the health and sustainability of forested conditions in, and surrounding, the project area, by reducing hazardous fuels and moving vegetative conditions in the project area toward the desired conditions.

The needs for the Pueblo Ridge Restoration Project include:

- improving tree vigor and stand resilience to reduce the risk of tree mortality from insects and disease
- reducing overall stand densities and moving stand conditions toward forest structures considered to be more typical of forest structure under pre-settlement fire regimes that have exhibited resilience to disturbance
- reducing the risk for high-intensity, stand-replacing wildfires
- reintroducing fire as a natural part of the ecosystem
- reducing fuel build-up to help prevent the spread of wildfire onto private property and into drainages leading into Taos Canyon and Taos Pueblo lands

- providing forest products, such as fuelwood, for people living in Taos and surrounding area, while protecting these resources for future generations
- improving habitat for wildlife and forage for range and wildlife
- protecting project area watersheds and associated water quality

The purposes of the two project-specific forest plan amendments in alternative 1 are to:

- incorporate the best available science for restoration in frequent-fire forests (Reynolds et al. 2013), management direction in the revised Mexican spotted owl recovery plan, and clarifying language for northern goshawk management; and
- allow ground-based mechanical harvesting with specialized equipment designed for operating on steep slopes without the construction of a permanent road.

Decision

Based upon my review of the alternatives, comments received, and other information included in the project record, I have decided to implement all aspects of alternative 1 with the following exception: instead of up to 9 spring developments, I have decided to implement up to 4 spring developments from alternative 2.

The following activities are authorized by this decision:

Vegetation and Fuels Treatments

Forest thinning treatments on 9,709 acres will utilize conventional ground-based equipment such as feller-bunchers and skidders, conventional non-ground-based equipment (for example, skyline yarders), harvesters, and forwarders, including those capable of operating on slopes of up to 75 percent gradient with the assistance of winches. Masticators and equipment such as excavators capable of treating and piling fuel on steep slopes will also be utilized where appropriate.

Hand-thinning treatments and cutting of understory ladder fuels (for example, shrubs and conifer regeneration) will occur as needed throughout the project area, along with lop-and-scatter techniques to reduce ladder fuels. Commercial and personal-use Christmas tree sales will also occur in areas that meet guidelines for Christmas tree harvesting.

To reduce natural and activity-created fuels, hand- and machine-piling and burning will occur throughout the project area, where not restricted by slope. Remaining trees in treatment units will be pruned 8 to 10 feet high, where necessary, to raise tree canopy base heights. Small trees will be cut as needed to create a burnable fuel bed prior to prescribed fire.

Availability of fuelwood on up to 9,709 acres will include dead and down fuelwood harvesting, where appropriate, and cutting and decking, where appropriate. These activities will be conducted off designated temporary roads and will include off-road travel to specific fuelwood-cutting areas. Fuelwood will be cut, removed, and decked away from riparian areas and slopes with a gradient greater than 40 percent. Fuelwood harvesting activities will cease once temporary roads are closed, following thinning activities. Public firewood collection will be offered as part of this treatment type.

Throughout the project area, prescribed burning (including broadcast, jackpot, under-burning, pile burning, and other common acceptable methods) is proposed to reduce surface, ladder, and canopy fuels and break up contiguous vegetation. Prescribed fire and other fuels reduction treatments, such as mastication and chipping, will be applied throughout the project area to reduce and maintain appropriate levels of surface, ladder, and crown fuels. This will be conducted using a variety of ignition methods on a schedule that will mimic natural fire return intervals. Units will be burned with varying fire intensities, resulting in mixed-severity fire effects and creating a mosaic of burned and unburned patches. Prescribed fire could occur before or after initial thinning treatments are completed to afford fire managers flexibility with implementation. Multiple entries of prescribed fire will be needed to maintain post-treatment conditions and to mimic historical fire return intervals in order to restore fire to fire-adapted ecosystems found within the project area.

Mastication treatments, including the use of boom-mounted masticators, will occur where appropriate across the project area to reduce fuels. Chipping residual fuels and biomass in conifer stands is included as an option to reduce fuels prior to prescribed fire.

Restoration Treatments

Up to 10.5 miles (approximately 32 acres) of riparian restoration treatments along streams within the project area and adjacent to the Rio Fernando in the La Sombra and Capulin Campgrounds will improve riparian habitat. Treatments could include conifer removal, ladder fuel reduction, and interconnected canopy reduction. Aspen restoration treatments will occur on 481 acres throughout the project area, including in the fuelbreaks. These treatments will selectively remove conifers within aspen stands and within 150 feet of aspen stands to increase aspen regeneration. Fuels remaining on site will be treated through prescribed fire or mechanical means to further promote aspen regeneration.

Road Management

Proposed road management includes rerouting some existing roads, decommissioning and closing of 13 miles or more of existing roads after project implementation, constructing approximately 5 miles of temporary road, and maintaining current National Forest System roads for project activities. Temporary roads are roads necessary for emergency operations or authorized by contract, permit, lease, or other written authorization; they are not forest roads and are not included in a forest transportation atlas (36 CFR 212.1). Rerouting existing system roads and up to 5 miles of temporary road construction will occur during implementation to allow access to thinning units (see figure 5 and figure 6 in the environmental assessment). The temporary roads will be decommissioned once the project is completed. No new permanent road construction is allowed with this decision.

Actual temporary road alignment and location will be determined during implementation; not to exceed number of miles analyzed in the environmental assessment. Studies done on temporary roads during assessment included multiple locations, establishing a baseline understanding of potential effects in a variety of areas with the understanding actual roads utilized during implementation may differ from those analyzed. All temporary road use mitigations and best management practices outlined in the environmental assessment will be observed.

Road maintenance will occur on approximately 5 miles of roads currently open to the public and on 39 miles of administratively managed roads currently closed to the public. Part of the North Boundary Trail is proposed for a haul route. Following project implementation, the portion of the North Boundary Trail used as a haul route will be restored to its original function as a nonmotorized trail with limited, administrative motor vehicle use authorized. Additionally, at that time, the parts of the trail no longer required for administrative use will be returned or converted to single-track trail.

Decommissioning 13 miles or more of closed roads will be included to reduce erosion from current road conditions. Decommissioning may be accomplished through a variety of methods, including but not limited to, abandoning, scarifying, and revegetating roadbeds; recontouring roadbeds; or both; installing dirt or stone barriers; scattering activity-generated large woody debris on roadbeds; or a combination of these means. Decommissioned roads will be removed from the national forest road system; they will continue to be tracked in the transportation atlas for future reference. The roads proposed for decommissioning do not include roads needed for grazing or other permittee access, fire suppression, or administrative access for forest management.

Range Improvements

Range improvement activities include up to four spring developments, two guzzlers, and one corral. Potential spring development locations are shown in figure 5 in the environmental assessment but may occur anywhere in the Capulin allotment. Springs selected for development are to improve the spring source health integrity associated with effects from livestock grazing. The springs will be fenced with wildlife-friendly fencing and water will be piped to drinkers outside of fenced areas. The corral will be built to improve livestock distribution on the Capulin allotment.

Project Design Features

Project design features will be incorporated into the project to protect soil, water, scenery values, terrestrial and aquatic habitat, and heritage resources. Mitigation measures and best management practices will be implemented during the project to limit erosion and sedimentation, reduce impacts to terrestrial and aquatic species, protect heritage resources, prevent the introduction and spread of invasive plants, and protect public health and safety.

The design features are an integral part of this project and will be carried out as part of the selected alternative. Design features are site-specific elements developed to further define and guide the proposed action. The project design features are found in appendix A.

Project-Specific Plan Amendments

The Carson forest plan, currently under revision, was written in 1986 and no longer incorporates best available scientific information. Anticipating the potential for this, both the National Forest Management Act and the 2012 National Forest System Land Management Planning Rule (2012 Planning Rule) have allowed the use of project-specific forest plan amendments so management activities can adapt to changing conditions and be improved based on new information.

Alternative 1 includes two project-specific forest plan amendments (discussed below). One will incorporate the best available science for restoration in frequent-fire forests (Reynolds et al. 2013), management direction in the revised Mexican spotted owl recovery plan, and clarifying language for northern goshawk management. The other amendment will allow ground-based mechanical harvesting with specialized equipment designed for operating on steep slopes.

Amendment 1- Incorporate best available science for restoration in frequent-fire forests (Reynolds et al. 2013), management direction in U.S. Fish and Wildlife Service's revised Mexican spotted owl recovery plan, and clarifying language for northern goshawk management

The Carson forest plan provides guidelines to manage for uneven-aged stand conditions but does not provide guidelines for managing interspaces at the fine scale. Recent science (Reynolds et al. 2013) has shown more interspaces were present on the landscape historically, and it is part of the natural fire regime for these interspaces to remain essentially treeless as a result of frequent fires. To meet restoration objectives, there is a need for a project-specific forest plan amendment to include the definition of interspaces, how interspaces and openings relate to vegetation structural stage, and how canopy cover will be measured across the landscape.

There are substantial differences between the current (1986) forest plan and the 2012 Mexican spotted owl recovery plan and recent scientific recommendations regarding northern goshawk management; these discrepancies impede the ability of Carson National Forest personnel to adequately create and maintain sufficient habitat for these two species. Therefore a project-specific forest plan amendment will need to address the direction provided in more recent documents. Specifically, this forest plan amendment will:

- update definitions and direction for Mexican spotted owl protected habitat (protected activity centers), recovery habitat, and other forest and woodland types to align with the current recovery plan;
- update language and direction related to prescribed cutting and fire treatments in protected activity centers to be consistent with the current recovery plan;
- add forest structure guidelines for Mexican spotted owl recovery habitat;
- add direction for riparian forest habitats;
- update Mexican spotted owl survey information;
- remove the direction for treating Mexican spotted owl habitat in incremental percentages;
- replace forest plan standards and guidelines for ponderosa pine and dry mixed-conifer (including northern goshawk direction) with desired conditions and guidelines;
- convert habitat structure analysis for old growth and vegetation structural stage from three scales of analysis (fine-scale, mid-scale, and large-scale) to one scale of analysis (project-level) to better inform project planning and design;
- add a desired condition for the percentage of interspaces within uneven-aged stands to facilitate restoration; and
- add the desired interspace distance between tree groups.

Amendment 2 - Allow ground-based mechanical harvesting with specialized equipment designed for operating on steep slopes to incorporate the most recent advances in harvest technologies into project implementation

Without the second, project-specific forest plan amendment permitting access to steep slopes, the likelihood of meeting the project's purpose and need will be diminished. Within the Pueblo Ridge Restoration project area, 30 percent of the project area, or 2,921 acres of National Forest System lands, have slopes of 40 percent gradient or more. These areas exhibit conditions indicating they are prone to active crown fire. Stand improvement thinning in these areas will be necessary before prescribed burns can be safely and responsibly applied and conducting stand improvement thinning using non-mechanical methods, such as hand treatment, will be labor intensive, impractical, or both. This will result in diminished treatment or no treatment in these areas.

Mechanized equipment technology has improved since the 1986 forest plan was approved. At the time the forest plan was approved, the use of ground-based mechanized equipment resulted in impacts to slopes greater than 40 percent; for example, damage to stabilizing vegetation and increased erosion. Current technology includes ground-based mechanized equipment, such as harvesters and forwarders, capable of tethering to trees with a winch. Use of this kind of equipment results in fewer impacts than previous equipment types. While use of this equipment is generally more costly than standard equipment, these costs are reasonable and less prohibitive than hand-thinning treatments.

The proposed project includes nine management areas. Relevant standards and guidelines from the 1986 forest plan will be applied for each management area, unless amended by project-specific forest plan amendments as described above.

The new project-specific guideline language is provided in the table composing appendix B. The table presents the new project-specific language in comparative format to the current forest plan language.

Decision Rationale

After thorough review of the environmental assessment and the "Response to Comments" document, I have determined alternative 1 complies with all laws and regulations, including the Carson forest plan (see the "Findings Required by Other Laws and Regulations" section) and meets the project's purpose and need. While it is critical to watershed health to have intact spring sources, I find it prudent to limit the number of spring developments to four or fewer (as analyzed in alternative 2). As such, springs may be developed to protect from resource damage caused by livestock grazing. It is also imperative to be reasonable in how many spring developments we can maintain over the decades.

After review of the issues identified by the public and interdisciplinary team, I have determined the best management practices, project design features, and monitoring respond to public concerns about the project and will minimize the potential adverse impacts of the project.

The vegetative elements of alternative 1 were selected because they best meets the purpose and need for the project in a manner consistent with applicable laws, regulation, and policy and with a lighter touch on the land while providing the most reasonable options to implement the project's intent.

Alternative 1 provides the opportunity to improve the health and sustainability of forested conditions on and surrounding the project area utilizing more reasonable and economically viable tools. I agree with concerns raised by members of the public that adding five miles of permanent road as described in the environmental assessment is expensive and costly to the environment in the long term. My decision to select alternative 1 avoids the need for permanent roads by allowing use of specialized harvesting equipment on slopes greater than 40 percent

Treatments will focus on moving the current stand conditions towards the historic range of variability. Moving stand conditions toward the historic range of variability will relate directly to improvements in forest health, wildlife habitat, forest products, soil and watershed condition, and fire regimes. Improving the health and sustainability of forested conditions on and surrounding the project area will also improve the resiliency of frequent-fire forests to future disturbances from fire, diseases, and climate change, while allowing the reintroduction of fire into the landscape. The project authorizes treatments that will mimic natural disturbance processes (for example, surface wildfire), which would not occur absent this project. Absent this project, overstocked conditions would persist within frequent-fire forests in the project area, and they would continue to have a higher risk for uncharacteristic wildfire, which could have detrimental effects on highly valued natural resources and neighboring communities, including public safety.

Similarly, the proposed project-specific amendments comply with applicable laws and regulations and meet the purpose and need for the amendments. The two Mexican spotted owl and goshawk-related plan amendments will bring desired conditions, standards, and guidelines pertinent to management of the Mexican spotted owl and northern goshawk in line with the best available science. The project-specific amendments allow the proposed project to implement activities that are in accordance with current guidelines for management of habitat for these species and consider modern harvesting technologies. Without the amendments, treatments would be required to adhere to existing standards and guidelines and would not result in the best management of habitat for these species. Ground-based mechanical harvesting with specialized equipment designed for operating on steep slopes would be precluded, meaning that as such 5 miles of new permanent system road would be necessary to treat the areas considered for treatment. Refer to the "Project-Specific Amendments" section of this document (page 9) for additional information regarding the amendments.

Other Alternatives Considered

In addition to the selected alternative, I considered vegetation management elements from alternative 2 (environmental assessment, pages 11 through 37).

Alternative 2

Alternative 2 did not include any plan amendments but had similar actions to alternative 1. Instead of a forest plan amendment to allow tracked and wheeled logging equipment to operate on steeper slopes, alternative 2 included 5 miles of new permanent road to allow logging machines with long cables (skyline yarders) to access proposed treatment areas and complete the vegetation treatments as proposed. This means alternative 2 could have achieved the same amount of vegetation treatment but would have required 5 miles of permanent road to do so. While alternative 2 assumed all the acres would have been treated, the 2,921 acres of slopes greater than 40 percent may not have been treated if funds were unavailable to pay for the costs of the new permanent road.

Public Involvement and Scoping

This project has been an integral component of a larger landscape-scale community-based collaborative initiative referred to as the Taos Valley Watershed Coalition. This initiative brought together representatives of the Carson National Forest, the Nature Conservancy, New Mexico Department of Game and Fish, New Mexico State Forestry, Taos County, Taos Pueblo, Taos Ski Valley, the Village of Taos Ski Valley, the Town of Taos, Trout Unlimited, Taos Soil and Water Conservation District, New Mexico Wildlife Federation, El Salto de Agua Land Association, and a number of Firewise community groups to discuss cohesive cross-boundary priority projects around the Taos area. This project is an integral part of Taos Valley Watershed Coalition's landscape restoration strategy,[1] which was finalized in July 2015. As part of that strategy, a larger cross-boundary Pueblo Ridge effort was determined to be a priority landscape project.

This project is also informed by the 2016 update of the Taos County Community Wildfire Protection Plan. The core team working on this plan has met regularly with Carson National Forest personnel and has collaborated on the design of this project. This project is also informed by a collaboration with U.S. Geological Survey and the New Mexico Landscapes Field Station personnel; they have conducted a tree-ring fire history study of select watersheds in the vicinity of Taos, including the watershed being analyzed for treatment in this project. The management recommendations from the study have been adopted into the design of this project.

This project was listed in the Carson National Forest quarterly schedule of proposed actions beginning in October 2017 and has been listed on every quarterly schedule of proposed actions since then.

Forest Service personnel hosted an open house on March 1, 2018; it was attended by 17 people from local communities. Written comment forms were submitted by five attendees; the comments focused on thinning techniques to improve wildlife habitat, erosion control, range forage, and stream restoration. Attendees also emphasized their personal values in the project area, including water, grazing, timber, clean air, fuelwood, game, and personal experiences of peace and quiet. Overall, written and verbal feedback from the open house was supportive of the project and highlighted the need for treatments in the project area.

[1] https://allaboutwatersheds.org//library/inbox/tvwc-landscape-restoration-strategy/view

Based on feedback from the open house and desired conditions, the preliminary environmental assessment analyzed two alternatives for this project: the proposed action that included the forest plan amendments (alternative 1) and an alternative without the forest plan amendments (alternative 2). Alternative 2 differentiated the consequences of hazardous fuels and stand conditions on key resources from the effects of alternative 1. The preliminary environmental assessment displayed the effects of the alternatives by contrasting the impacts of the alternatives with the current condition and expected future condition.

In accordance with the Forest Service's project-level predecisional administrative review process (36 CFR 218.24), a 30-day public comment period was designated between May 16th and June 17th, 2019, for the preliminary environmental assessment prepared for the Pueblo Ridge Restoration Project – as described in a legal notice published in the Taos News on May 16th, 2019. Copies of the legal notice and the preliminary environmental assessment were published to the Carson National Forests website on May 16th, 2019. Also, an availability letter was mailed to 44 individuals, organizations, and agencies and an availability email was sent to 109 individuals, organizations, and agencies identified as interested, affected, or both. The legal notice, letter, and email included a description of the proposed action, information on how to access the full preliminary environmental assessment, and instructions on how to comment on the preliminary environmental assessment.

During the comment period, the Forest hosted an open house on May 29th, 2019 to answer questions from the public about the project and to gather comments attendees had about the project. Seventeen individuals registered as attendees at the open house with many more participating but not registering as attendees.

A total of eighteen written comment letters or emails were received during the comment period. As a result of these comments, proposals in the environmental assessment, including project design features, were improved and updated to address confusion about the proposal's wording. Additionally, language was added to the environmental impacts section to better clarify effects of the alternatives. A summary of these clarifications and modifications, as well as detailed responses to comments received during the 30-day public comment period, can be found on the project website at https://www.fs.usda.gov/project/?project=52575.

Project-Specific Amendments

As indicated above, this document includes a decision to authorize two project-specific amendments to the Carson forest plan. This section documents compliance with the regulations for plan amendments.

Under the National Forest Management Act (NFMA) and its implementing regulations at 36 CFR 219 (2012 Planning Rule), a plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for the change. I have the discretion to determine whether and how to amend the forest plan and to determine the scope and scale of any amendment.

The potential effects of the project-specific amendments are documented in the environmental assessment for the Pueblo Ridge Restoration Project following Forest Service NEPA procedures at 36 CFR Part 220. Because the amendments apply only to the Pueblo Ridge Restoration Project, it is not considered a significant change to the 1986 forest plan for purposes of the NFMA (36 CFR 219.13(b)(3)).

Compliance with the Rule's Procedural Provisions

As explained below, this amendment complies with the procedural provisions of the 2012 Planning Rule (36 CFR 219.13(b))

Using the best scientific information to inform the planning process (section 219.3)

The project-specific amendments are based on the best available scientific information regarding the northern goshawk, Mexican spotted owl, and the use of ground-based mechanical harvesting equipment with specialized equipment designed for operating on steep slopes.

The project-specific amendment for northern goshawk and Mexican spotted owl is based on the most recent (2012) recovery plan for the Mexican spotted owl. Forest Service personnel defers to the expertise and authority of U.S. Fish and Wildlife Service personnel regarding management of species listed under the Endangered Species Act. Accordingly, Forest Service personnel have relied on the latest science and guidance from the U.S. Fish and Wildlife Service personnel (the 2012 Recovery Plan) in preparing the project-specific amendment.

Similarly, the Forest Service personnel have relied principally on the Rocky Mountain Research Station's General Technical Report 310, *Restoring Composition and Structure in Southwestern Frequent-Fire Forests: a science-based framework for improving ecosystem resiliency* (GTR-310; Reynolds et al. 2013) for development of components of the project-specific amendment related to the northern goshawk. GTR-310 provides a framework for restoration of frequent-fire forests which incorporates the best available science regarding management of northern goshawks. As such, reliance on GTR-310 represents use of the best available science for management of northern goshawks.

The project-specific amendment to allow ground-based mechanical harvesting with specialized equipment designed for operating on steep slopes to incorporate the most recent advances in harvest technologies into project implementation is based on the fact that mechanized equipment technology has improved since the 1986 forest plan was approved. Current technology includes ground-based mechanized equipment, such as harvesters and forwarders, capable of tethering to trees with a winch. The use of this kind of equipment results in fewer impacts than previous equipment types. While use of this equipment is generally more costly than standard equipment, these costs are reasonable and less prohibitive than hand-thinning treatments.

Providing opportunities for public participation (section 219.4) and providing public notice (section 219.16 and section 219.13(b)(2))

Details regarding public notices and public participation are outlined previously in the "Public Involvement and Scoping" section of this document. Because this is a project-specific amendment, public participation and notices were conducted with the public process for the Pueblo Ridge Restoration Project in accordance with 36 CFR 219.16(b). Forest Service staff has followed the applicable regulations regarding public participation and notices in place at the time of such processes.

Format for plan components (section 219.13(b)(4) and section 219.7(e))

The project-specific amendments modifies and adds desired conditions, standards, guidelines and plan components pertinent to management of the Mexican spotted owl and northern goshawk and removes the restriction preventing harvest timber on slopes greater than 40 percent. The added, modified, and deleted plan components are set out as required at 36 CFR 219.7(e).

The plan amendment process (section 219.13)

The project-specific amendment process was conducted concurrently with the planning process for the Pueblo Ridge Restoration project. Information regarding this process is available in other sections of this document outlining the decision process for the Pueblo Ridge Restoration project.

I developed the project-specific amendments in response to the need to amend the forest plan as outlined in the "Purpose and Need" section of this document. I provided opportunities for public participation as described in the "Public Involvement and Scoping" section of this document. I prepared the plan amendments in compliance with the National Environmental Policy Act, as an environmental assessment was prepared to analyze the potential impacts of the project-specific amendments, as well as the Pueblo Ridge Restoration Project. Applicable plan components and substantive requirements were addressed as described herein. Finally, I have documented my decision regarding the project-specific amendments in this decision notice.

Objection Opportunity (sections 219.50 through 219.62)

The project objection process (36 CFR 218) is being used for both the project and this project-specific amendments as permitted at 36 CFR 219.59(b). Refer to the "Administrative Review Opportunities" section of this document for additional information regarding objection opportunities.

Effective Date (section 219.17(a)(3))

In accordance with 36 CFR 219.17(a)(3), the effective date for the project-specific amendments is governed by 36 CFR 218. Refer to the Implementation section of this document for additional information regarding the effective date.

Documenting Compliance with the Rule's Applicable Substantive Provisions

The 2012 Planning Rule requires that those substantive rule provisions within 36 CFR 219.8 through 219.11 that are directly related to the amendments are applicable to these amendments. The applicable substantive provisions apply only within the scope and scale of the amendments (36 CFR 219.13(b)(5)).

As explained in the discussion that follows, both the purpose and the effects of the amendments are such that provisions in 36 CFR 219.9 *Diversity of plant and animal communities*, are directly related to the amendments. I have applied those provisions within the scope and scale of the amendments.

Scope and scale of the amendments

The scope and scale of the amendment are defined by the purpose for the amendments as described in the "Purpose and Need" section of this document. The scope of the project-specific amendments are limited to desired conditions, standards, and guidelines relative to management of habitat for the Mexican spotted owl and northern goshawk and to percent slope timber harvesting restrictions. Similarly, the scale of the project-specific amendments are limited to the project area for the Pueblo Ridge Restoration project. Accordingly, the amendments do not impact other resource areas or other areas of the Camino Real Ranger District.

Rule provisions directly related to the amendment

The 2012 Planning Rule requires that substantive rule provisions (sections 219.8 through 219.11) that are directly related to the amendments must be applied to the amendments. A determination that a rule provision is directly related to the amendments is based on any one or more of the following criteria:

1. The purpose of the amendment (section 219.13(b)(5)(i)).
2. Beneficial effects of the amendment (section 219.13(b)(5)(i)).
3. Substantial adverse effects associated with a rule requirement (section 219.13(b)(5)(ii)(A)); "when an EA or CE is the NEPA documentation for the amendment, there is a rebuttable presumption that there is no substantial adverse effect, and thus no direct relationship between the rule and the amendment based on adverse effects (section 219.13(b)(5)(ii)(B))."
4. Substantial lessening of protections for a specific resource or use (section 219.13(b)(5)(ii)(A)).
5. Substantial impacts to a species or substantially lessening protections for a species (36 CFR 219.13(b)(6).

Applying these criteria, I made the following determination.

- One of the purposes of the project-specific amendments is to add and modify desired conditions, standards, and guidelines in line with the best available science and focused on habitat management for the Mexican spotted owl and northern goshawk. The other purpose is to allow ground-based mechanical harvesting with specialized equipment designed for operating on steep slopes. Because of these purposes, the directly related provision of the 2012 Planning Rule is 36 CFR 219.9(b) – Additional, species-specific plan components.

Because the northern goshawk and Mexican spotted owl amendment scope focuses on only Mexican spotted owl and northern goshawk habitat and the steep-slope amendment applies only to slopes in the Pueblo Ridge Restoration project area, the directly related rule provisions are applied only for those species and this area. Similarly, because the amendments' scale focuses on the Pueblo Ridge Restoration project, the directly related rule provisions are applied only to the project area.

Having applied those rule provisions, I found the project-specific amendments will meet those requirements; therefore, no adjustment to the proposed amendments are necessary.

Specifically, the project-specific amendments provide species-specific plan components, including standards and guidelines that will help to restore ecological conditions within the project area to contribute to maintaining a viable population of the focal species and that removes standards and guidelines that include slope percentage restrictions limiting the acreage that could be economically treated to reduce fuels.

Finding of No Significant Impact

The finding of no significant impact in the environmental assessment is incorporated by reference in this document. The finding of no significant impact found alternative 1 will not have significant effects on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared.

Findings Required by Other Laws and Regulations

I have determined the proposed action is consistent with Carson forest plan goals and objectives and with forest-wide and management area standards and guidelines, as amended, as discussed in the "Forest Plan Consistency" section of chapter 1 of the environmental assessment. Therefore, this project complies with the National Forest Management Act of 1976.

Guidance for this project derives from a complex layering of laws and regulations developed over the past century. The environmental assessment for this project was prepared in compliance with all applicable statutes, regulations, and executive orders, including, but not limited to, those listed below.

Federal Laws and Regulations

- Migratory Bird Treaty Act of 1918
- Fish and Wildlife Coordination Act of 1958 (16 United States Code [USC] 661 et seq., as amended)
- Multiple-use Sustained Yield Act of 1960
- National Historic Preservation Act of 1966, as amended (16 USC 470)
- National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.)
- Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508)
- Clean Air Act of 1972 (42 USC. 7401-7671, as amended)
- Endangered Species Act of 1973 (16 USC 1531-1544, as amended)
- National Forest Management Act of 1976
- Clean Water Act of 1977 (33 USC 1251 et seq.)
- American Indian Religious Freedom Act of 1978 (42 USC 1996)
- Archaeological Resources Protection Act of 1979 (16 USC 470)
- Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001-3013)
- Protection of Historic and Cultural Properties (36 CFR 800 et seq.)
- Executive Order 11514, Protection and Enhancement of Environment Quality
- Executive Order 11593, Protection and Enhancement of the Cultural Environment
- Executive Order 11988, Floodplain Management
- Executive Order 11990, Protection of Wetlands
- Executive Order 12898, Environmental Justice
- Executive Order 13007, Indian Sacred Sites
- Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks
- Executive Order 13084, Consultation and Coordination with Indian Tribal Governments
- Executive Order 13112, Invasive Species
- Executive Order 13186, Protection of Migratory Birds

Administrative Review Opportunities

The Pueblo Ridge Restoration Project is an activity implementing a land management plan and is not authorized under the Healthy Forests Restoration Act. This draft decision is subject to objection pursuant to 36 CFR 218, subparts A and B. Legal notice of the opportunity to object has been published in The Taos News with issuance of this draft decision notice.

In accordance with section 218.5(a), objections to this draft decision will only be accepted from those who have previously submitted timely, specific written comments regarding the project during scoping or another designated opportunity for public comment. Issues raised in objections must be based on issues raised in previously submitted written comments on the proposed project. We will accept new issues only on new information that arose after the designated comment opportunities (for example, new analysis in the final environmental assessment).

Objections, including attachments, must be filed via mail, email, fax, express delivery, or messenger service to:

Reviewing Officer James D. Duran, Forest Supervisor
208 Cruz Alta Road
Taos, NM 87505
Fax: (575) 758-6213
Email: objections-southwestern-carson@fs.fed.us

Objections must be submitted within 45 calendar days following the publication of a legal notice in The Taos News. The publication date in the newspaper of record is the exclusive means for calculating the time to file an objection. Those wishing to object should not rely upon dates or timeframes provided by any other source. Regulations prohibit extending the time to file an objection.

At a minimum, an objection must include the following (36 CFR 218.8(d)):

1. The objector's name and address, with a telephone number, if available;
2. A signature or other verification of authorship upon request (a scanned signature for email may be filed with the objection);
3. When multiple names are listed on an objection, identification of the lead objector (verification of the identity of the lead objector shall be provided upon request);
4. The name of the proposed project, the name and title of the Responsible Official, and the name(s) of the national forest(s), ranger district(s), or both in which the proposed project will be implemented;
5. A description of those aspects of the proposed project addressed by the objection, including specific issues related to the proposed project if applicable, how the objector believes the environmental analysis or draft decision specifically violates law, regulation, or policy; suggested remedies that would resolve the objection; supporting reasons for the reviewing officer to consider; and
6. A statement that demonstrates connection between prior specific written comments on the particular proposed project or activity and the content of the objection.

Incorporation of documents by reference is permitted only as provided in 36 CFR 218.8(b). It is the objector's responsibility to ensure timely filing of a written objection with the reviewing officer pursuant to 36 CFR 218.9. All objections are available for public inspection during and after the objection process.

Implementation

If no objections are filed within the 45-day objection period, implementation of the decision may occur on, but not before, the 5th business day following the close of the objection filing period.

If an objection is filed, the reviewing officer must issue a written response to the objector(s) concerning their objection(s). Once objection responses are complete, the reviewing officer may issue instructions to the responsible official to follow before finalizing the environmental assessment and signing the decision notice and finding of no significant impact. A project which undergoes an objection review may be implemented immediately after signing of the decision notice.

In either case, regulations (36 CFR 218) do not require legal notice of a signed decision. However, the Forest Service may send out a letter or press release to notify interested parties of the availability of the final decision document(s).

For further information about this project, contact Gabe Romero, Silviculturist, at (575) 587-2255 during normal business hours.

Approved by:

James D. Duran
Forest Supervisor
Carson National Forest

Date

Appendix A. Pueblo Ridge Restoration Project Design Criteria

Silviculture

- Slash at landings will be machine-piled for future burning or masticated if the material cannot be used for biomass or fuelwood.
- Where available, a minimum of 20 percent of each forest type within the project area will be allocated for old growth management (see figure 7 in the environmental assessment). Vegetation treatments and prescribed burning can occur in the allocated areas provided that the treatments 1) enhance old growth characteristics and 2) do not reduce the allocated areas below the minimum thresholds set for both high-quality or low-quality old growth.
- Vegetation structural stage 6 (old and large) trees will be retained unless they compromise the health of aspen stands, they compromise general forest health, or they pose a risk to public safety. This will be evaluated and determined on a stand-by-stand or tree-by-tree basis during implementation.
- Silvicultural prescriptions will account for an additional 5 to 15 percent loss of trees from subsequent prescribed burning within treatment units.
- Existing snags will be designated as leave trees outside landing areas or where they do not otherwise pose a safety hazard. Two to three large (greater than 18 inches in diameter at breast height) live trees will be retained per acre as recruitment snags in areas where snags are deficient to meet forest plan direction of retaining 300 snags per 100 acres. Live trees with dead tops or lightning scars will be top priority for retention as future snags. Three snags per acre will be retained around meadows.

General Wildlife

- Dead and dying snags will be retained within all treatment units at a ratio of at least 300 snags per 100 acres of suitable timberland, except in areas where they present a risk to human safety.
- Snags could be recruited from disease-free cull or poor-form trees within at least 100 feet of ponds, lakes, springs, seeps, wet meadows, and openings, where appropriate and beneficial to wildlife.
- Known raptor nests (besides Mexican spotted owl and northern goshawk which have species-specific mitigation measures below) will be buffered from mechanical treatments according to forest plan guidance.
- When designing timber sales, attempts will be made to keep activity perimeters within one major drainage at a time. Subdivision design of timber sale units and contract stipulations (such as requiring the completion of a block before beginning activities in another area of the sale) will be utilized as necessary to minimize big game disturbance.

- Sufficient size and length per 100 acres of down logs (where biologically feasible) on 75 percent of suitable timberlands not determined to be highly vulnerable to fuelwood collection will be retained. The guideline includes:
  - Conifers: 12-inch minimum diameter and 5,000 linear feet per 100 acres.
  - Aspen: 10-inch minimum diameter and 3,300 linear feet per 100 acres.
- Timber sales will be designed so activity time frames minimize displacement of wildlife. A primary objective will be to limit logging disturbance in a given activity area to no more than three years whenever possible on each timber sale.
- Retain some Gambel oak with diameter at root collar (DRC) greater than 8 inches where desired for wildlife habitat, unless the retention of these trees compromises the purpose and need of this project.

Mexican spotted owl

- Surveys for presence of nesting Mexican spotted owls will be conducted prior to activities occurring within suitable nesting habitat. If implementation of the project occurs more than five years after the pre-implementation surveys, then an additional one year of survey will be conducted in compliance with the recovery plan, using the accepted protocol prior to implementation. If owls are detected, consultation with U.S. Fish and Wildlife Service will be reinitiated.
- Surveys and implementation activities can be phased to ensure recent surveys are conducted prior to conducting treatments.
- If owls are detected, then a minimum 600-acre protected activity center will be delineated, which also includes a 100-acre core or activity center area (alternatives 1 and 2, respectively). Human activity will be limited or deferred within core areas or established protected activity centers (alternatives 1 and 2, respectively) from March 1 to August 31, if these areas are occupied by owls.
- Road building in protected activity centers should be avoided, unless unavoidable management reasons (for example, safety concerns) necessitate road construction. Consultation with U.S. Fish and Wildlife Service will be reinitiated if road construction is deemed necessary inside a protected activity center.
- Within protected activity centers, removal of hardwoods, down woody debris, snags, and other key habitat variables should occur only when compatible with owl habitat management objectives as documented through reasoned analysis. Otherwise, levels of these materials should be improved or maintained.
- Prescribed fire within protected activity centers (excluding activity center areas in alternative 2), such as light burning of surface and low fuels, is permitted outside of the breeding season pending review by specialists to ensure habitat protection.

Management guidelines from the 2012 Mexican spotted owl recovery plan will be followed, which include, but are not limited to:

Core areas

- Planned or unplanned fires should be allowed to enter core areas only if they are expected to burn at low intensity with low-severity effects.

Protected activity centers (activities located outside the core area)

- Mechanical treatments will be conducted in up to 20 percent of the total non-core protected activity center area within each ecological management unit (treatments can exceed 20 percent of the non-core acreage within a single protected activity center).

All other areas containing habitat

- Treatments outside protected activity centers, but within Mexican spotted owl nesting and roosting habitats, will retain structural characteristics at or above levels described in table 1.

Table 1. Minimum desired conditions for mixed conifer forest areas managed for recovery nesting and roosting habitat

Ecological Management Unit Forest Type	Percent of area[1]	Percent BA by size class 12-18 inch dbh (30-46 cm)	Percent BA by size class Greater than 18 inch dbh (greater than 46 cm)	Minimum tree BA[2]	Minimum density of large trees[3]
Mixed conifer (Southern Rocky Mountains)	25	>30	>30	27.5 (120)	30 (12)

1 Percent of area pertains to the percent of the planning area, subregion, region, or a combination of these areas in the specified forest type that should be managed for threshold conditions.

2 Basal area (BA) in square meters per hectare (square feet per acre), and include all trees more than 1 inch in diameter at breast height (any species). We emphasize values shown are minimums not targets.

3 Trees more than 46 centimeters (18 inches) in diameter at breast height (dbh). Density is trees per hectare. Again, values shown are minimums rather than targets. We encourage retention of large trees.

- Prescriptions for treatments outside protected activity centers, but in forested stands identified as additional nesting and roosting habitat will be designed for attainment of conditions described in table 1 as quickly as reasonably possible.
- Treatments within forested recovery habitat outside protected activity centers and outside stands managed for nesting and roosting habitat will be designed so that most hardwoods, large snags (greater than 18 inches in diameter at breast height), large down logs (greater than 18 inches in diameter at any point), and large trees (greater than 18 inches in diameter at breast height) are retained, unless this conflicts with safety requirements, forest restoration, owl habitat enhancement goals, or a combination of these things. Treatments adequate to meet fuels and restoration management objectives in recovery habitats may result in the short-term loss of some habitat components in areas that could be occupied by spotted owls. Treatments outside protected activity centers, but within Mexican spotted owl restricted riparian areas, will be accomplished through consideration of abundance or deficient of key habitat components for the Mexican spotted owl (such as snags, large down logs, hardwood trees, or a combination of these things).

Northern goshawk

- Surveys for presence of nesting northern goshawks will be conducted prior to activities occurring within suitable nesting habitat. If implementation of the project occurs more than five years after the pre-implementation survey, then an additional one year of survey will be conducted prior to implementation. Surveys and implementation activities can be phased over time to ensure surveys are complete before implementation activities begin.
- If an active northern goshawk nest is found in pre-implementation surveys, appropriate management guidelines for habitat disturbance mitigations will be employed, including:
    - Establishment of a post-fledging family area of at least 600 acres.
    - Northern goshawk timing restrictions (March 1 to September 30) will be applied to management activities within post-fledging family areas and nest stands.
    - Trees containing active and alternative nest sites as well as some adjacent trees will be retained.
- In general, guidelines for treatments are outlined in General Technical Report 310 (Reynolds et al. 2013). Some of these guidelines include, but are not limited to:
    - Northern goshawk post-fledging family areas should have 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. Goshawk nest areas should have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest.
    - Lop and scatter thinning debris within post-fledging family areas and avoid piling debris.
- Design of appropriate treatments outside goshawk post-fledging family areas will be based on existing cover type and size of stand. Prescriptions will consider desired conditions, including stand composition, structure, and distribution, based on the cover type available both within the treatment unit and across the project area. Desired conditions include:
    - Within ponderosa pine and dry mixed conifer stands, manage over time for uneven-aged stand conditions composed of heterogeneous mosaics of tree groups and single trees, with interspaces between tree groups. The size of tree groups, as well as sizes and shapes of interspaces should be variable. Over time, the spatial location of the tree groups and interspaces may shift within the uneven-aged stand.
    - Tree group spatial distribution in the treatment area may be highly variable based on the local site and current conditions; the interspaces between groups should range from 20 to 200 feet, but generally between 25 and 100 feet from drip line to adjacent drip line. This spacing of groups is not affected by single trees in the interspace.

- At the landscape scale and mid-scale, the number of trees per group and number of groups per area should vary across the landscape. Collectively these stands should aggregate to uneven-aged forest landscapes, similar to natural conditions.
- In ponderosa pine and dry mixed conifer, snags and coarse woody debris should be well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. Coarse woody debris, including logs, may range from 5 to 15 tons per acre. Logs may average 3 per acre within the forested area of the landscape.

Fire and Fuels

- Prescribed fire control lines will be constructed as needed to protect resources, hold prescribed fires in predetermined areas, or both. Control lines include black line, hand line, dozer line, fire line, pruning, and saw line. Existing roads and topographic features such as trails, creek drainages, meadows, rocky outcrops, and other natural barriers will be used as control lines where possible
- Hazard trees and snags will be removed where they pose a risk to the public or forest personnel.
- Prescribed fire operations will occur when weather and fuel conditions are favorable and risk of fire escape is low. All burning will take place under the guidelines in the prescribed fire plan, which will be developed specifically for all project-related burning activities. Prescribed fire plans will address parameters for weather, air quality, contingency resources, and potential escapes.
- Surface fuel loading levels of coarse woody debris less than 3 inch in diameter will be reduced to approximately 5 to 10 tons per acre, in areas determined by local fire managers in fuel breaks.
- Surface fuel loading levels of coarse woody debris greater than 3 inch in diameter will be reduced to approximately 10 to 15 tons per acre, in areas determined by local fire managers adjacent to private land and in fuel breaks.
- Prescribed burns will be registered with the New Mexico Environment Department, Air Quality Bureau, in advance of prescribed burn implementation to ensure conformity with state implementation plans for emissions of regulated air pollutants from forest lands or facilities.

Watershed

Streamside Management Zones

- Streamside stream and riparian management zones will generally not exceed 300 feet, except under extreme circumstances, such as steep, dissected, highly unstable slopes adjacent to channels.

- Stream and riparian management zones will be delineated by the watershed specialist based on channel and adjacent upland conditions. These zones will be delineated using the following criteria:
  - ♦ No personal-use fuelwood harvest will be conducted within 100 feet of running surface water.
  - ♦ Skid trails, landings, and temporary access roads will be excluded from riparian zones, meadows, wetlands, and other sensitive areas.
  - ♦ Woody vegetation that is stabilizing stream banks will be left in place.
- Stream and riparian management zones will be designated on a map.
- Broadcast burning will not be initiated within riparian areas, but will be allowed to move into and through riparian areas.
- Excessive vehicle traffic will be deterred from riparian zones, meadows, wetlands, and other sensitive areas.
- Where stream crossings occur, operational activities will be scheduled during low-water periods and stream-hardening structures will be installed where appropriate to minimize sediment generation and delivery to streams.
- Erosion control structures, such as culverts, water bars, etc., will be constructed to not divert runoff directly into stream channels.
- Residual woody debris (slash) generated from treatment activities will be removed from stream channels, including ephemeral streams and drainages.
- Stream and riparian management zones not mapped but encountered in the field during operations will adhere to the guidelines above.

Steep Slope Ground-Based Treatments (40 to 75 percent slope) Practices:

- Cut-to-length treatment systems will be utilized only using specified equipment, such as a harvester/forwarder combination. Equipment will be operated on a slash mat created by limbs and tops of processed trees.
- Skid trails and routes will be designated through consultation with a Forest Service watershed specialist.
- Slash mats should be used to prevent rutting and erosion, where possible. Slash mats need to be sufficient to prevent tire or track ruts greater than 4 inches in depth. If excessive rutting or compaction does occur, additional slash mat depth may be required.
- Slash mats will be retained on site, unless there are fuels concerns in specific areas or the soils are determined to be recovered.
- No ground-based equipment will be used on slopes above 75 percent.

- Operations will only occur when soils are dry. Soils are considered dry when soil moistures are below their plastic limit. Observations of the extent of rutting can be used as a surrogate for interpreting soil moisture amounts. Where greater-than-4-inch ruts are observed during operation of heavy equipment, generally soils may be too moist for ground-based equipment operation. Additional best management practices may be required such as addition of more slash on routes, or avoidance of wet areas.
- The appropriate time of year for harvesting will be determined based on the sensitivity of the soils as defined below.
    - Forty to 75 percent slopes: Timber on all soils at this slope range will only be harvested when dry and during the driest part of the year. Operations will be carried out in early summer or fall, and will not take place during the monsoon season.
    - Winter logging will occur only under the following conditions: Soils frozen to a depth of 6 inches; soil is armored with a minimum of 8 inches of packed snow; or soil is armored with a minimum of 16 inches unpacked snow. Be prepared to suspend operations if conditions change rapidly and likelihood of soil damage from displacement or rutting becomes high.
    - Prescribed fire planning measures on slopes 40 percent and greater will take steps to mitigate soil impacts and minimize accelerated erosion. Examples may include evaluating different ignition strategies, minimizing burn severity, creating larger unburned mosaics, back burning, and ensuring full consumption of ground cover does not occur.

Existing Haul Roads

- The road surface drainage system will intercept, collect, and remove water from the road surface and surrounding slopes in a manner that reduces concentrated flow in ditches, culverts, over-fill slopes, and road surfaces.
- Road surface treatment will support wheel loads, stabilize the roadbed, reduce dust, and control erosion consistent with anticipated traffic and use.
- All roads will be maintained with proper road maintenance practices during and after treatment activities.

Temporary Road Construction

- The Carson National Forest terrestrial ecosystem survey will be consulted for potentially unsuitable soils and terrain, and roads will be located to fit the terrain, follow natural contours, and avoid steep grades.
- Potential areas of concern (seeps, springs, meadows, riparian-wetland areas, stream crossings) will be field verified with a watershed specialist. The road surface drainage system will be designed to intercept, collect, and remove water from the road surface and surrounding slopes in a manner that reduces concentrated flow.
- The road will be designed for minimal disruption of natural drainage patterns and to reduce the hydrologic connection of the road segment or network with nearby waterbodies.

- Sensitive areas, such as riparian areas, wetlands, meadows, bogs, and fens, will be avoided to the extent practicable.
- Outfalls of road surface drainage structures will be located to provide sufficient buffer distance for water to infiltrate prior to reaching a stream and limit the number and length of water-crossing-connected areas to the extent practicable.
- Construction activities will be scheduled to avoid direct soil and water disturbance during periods of the year when heavy precipitation and runoff are likely to occur.
- Erosion and stormwater controls will be installed and maintained as necessary to ensure proper and effective functioning (sediment filters, straw bales, or wattles).
- Stream crossings will be designed to avoid or minimize adverse effects to soil, water quality, and riparian resources.

Decommissioning of Temporary Roads

Temporary roads will be decommissioned by one or more of the following:

- Pulling berm; pulling slash (where available); placement of slash; water bars; rolling dips; planting or seeding disturbed areas to achieve a minimum of 50 percent ground cover.
- Mulching; restoring natural drainage patterns (may include pulling water bars and culverts).
- Disguising the first hundred yards of travelway with large pieces of organic material such as cull logs and tops of trees. Methods for individual roads will be determined in consultation with the watershed specialist.
- Recontouring slopes; subsoiling and scarification of compacted soils to a depth of 16 inches (unless prevented by bedrock or rock content of soil).

Fueling and Vehicle Maintenance

- Refueling and vehicle maintenance and staging areas will occur in upland sites at least 200 feet from any stream or riparian area; if this is not practical, the watershed specialist will pre-approve staging areas, and spill containment materials will be required on site.
- Spill prevention, containment, and countermeasure plans are required if the volume of fuel exceeds 660 gallons in a single container or if total storage at a site exceeds 1,320 gallons.

Timber Harvest and Commercial Products – Skidding

- Skidding will occur when the ground is dry, frozen to a depth of 6 inches, soil is armored with a minimum of 8 inches of packed snow, or soil is snow covered with a minimum of 16 inches of unpacked snow.
- Work will occur only when the soil moisture is such that the soil surface is stable and not susceptible to damage.
- Work will be suspended when soil moisture content warrants (for example, no skidding will be done under wet soil conditions, when ruts six inches or deeper will form on a continuous 50 feet or more of skid trails).

- Ground equipment operations will be avoided on unstable, wet, or easily compacted soils and on steep slopes unless operation can be conducted without causing excessive rutting, soil puddling, or runoff of sediments directly into waterbodies.
- No skidding or vehicular equipment will be allowed in moist or wet meadows, wetlands, or other sensitive areas.
- If the only way to log a particular part of a unit is to skid in the draw bottom, that part of the unit will be excluded from harvest.
- Equipment will be permitted in ephemeral draw bottoms only at designated crossings.
- Skid trails will minimize the number of crossing on the draws and crossing will be at a 90 degree angle.
- Skid trails will be designed to minimize the number of passes, and generally skid trails and landings will occupy less than 15 percent of a treatment unit, unless it is a cut-to-length unit, in which case skid trails and landings will occupy less than 20 percent of a treatment unit.
- Existing skid trails, roads, and dozer lines will be used where possible. Skid trail spacing will be dictated by the layout of group selection treatments, with a desired spacing of 100 to 120 feet apart for conventional skidder trails and 50 feet apart for cut-to-length forwarder trails, where practicable.
- Skid trails should average less than 14 feet wide.
- Skidders will operate on slash, where possible, to minimize compaction.
- Skid trails will be evaluated after harvest to determine if subsoiling and scarification is needed to break up compaction.
- Skid trails with disturbed soil will be seeded with native grasses (seed mix will be specified in the timber sale contract).

Timber Harvest and Commercial Products – Landings

- The size and number of landings will be minimized as practicable to accommodate safe, economical, and efficient operations.
- Existing landings will be reused where their location is compatible with management objectives and water quality protection.
- Landings will be rehabilitated through the following actions: the surface will be reshaped to promote dispersed drainage; suitable drainage features will be installed; soil compaction will be mitigated to improve infiltration and revegetation conditions; soil protective cover will be applied on disturbed areas where natural revegetation is inadequate to prevent accelerated erosion before the next growing season; native grasses will be seeded.

Timber Sale Contract

- Appropriate contract provisions and regional or local provisions will be used to address measures and responsibilities consistent with the best management practices in the decision document in the timber sale contract.
- All protected or excluded areas, including stream and riparian management zones, meadows, wetlands, and waterbodies, will be delineated on the sale area map or project map.
- Approved water-drafting locations and staging areas will be delineated on the sale area map or project map.

Thinning Units

- Mechanized thinning equipment will operate under conditions described for tractor skidding, forwarders, or excaliners (a modified excavator that can anchor to the ground with its bucket and utilize skyline yarding techniques in backcountry areas) to minimize soil compaction and displacement.

Mastication and Chipping

- Mechanized thinning equipment will operate under conditions described for tractor skidding to minimize soil compaction and displacement.
- Equipment will operate on slash to minimize compaction, where mastication or other mechanical slash disposal treatment occurs, and will limit the accumulation of chunked, chipped, or shredded wood to an average maximum of 4 inches deep or less to allow for vegetative regrowth.

Personal-Use Products Units

- Off-highway vehicle use will be monitored to identify areas contributing or likely to contribute to water quality degradation.
- Corrective action may include signing or barriers to redistribute use, placing restrictions on areas, rotation of use on areas, closure to vehicles that are causing problems, or total closure.
- Where soil condition is less than satisfactory or where erosion hazard is severe, areas will not be open to public fuelwood collecting to limit the amount of soil disturbance.

Jackpot Burning

- Burning will generally occur when the ground is frozen, partially snow covered, or after monsoon rains have increased soil moistures to minimize scorching the organic soil layer and to maintain large woody material for nutrient cycling.

Pile Burning

- Size of burn piles constructed by hand will not exceed approximately 16.5 feet in diameter.
- Burn piles constructed by machine that exceed 16.5 feet in diameter will avoid the use of logs greater than 6 to 8 inches in diameter, pile materials with cut ends facing out of the pile, pile larger logs on top of pile to ensure proper consumption and minimize potential for smoldering in order to reduce effects on underlying soils.[2]
- Pile burning will not occur within streamside management zones, except over snow or on frozen ground.

Timing of Activities

- Noncommercial and commercial activities will be scheduled to minimize the spatial and temporal extent of ground disturbing activities.
- Roads, skid trails, and landings will be closed and rehabilitated immediately following the cessation of activity to minimize the spatial and temporal extent of ground-disturbing activities.

Weeds

- All heavy equipment will be cleaned prior to entering National Forest System lands.
- Seed, straw, and other materials used for road decommissioning and erosion control will comply with "Guidelines for Weed-Free Seed, Mulch, and Fill Materials in Region 3."
- Gravel, fill, sand, and rock utilized in road construction or maintenance will comply with "Guidelines for Weed-Free Seed, Mulch, and Fill Materials in Region 3."
- Native plant materials will be used for revegetation unless accepted extenuating circumstances are identified.

Spring Developments

- Locate the water trough, tank, or pond a suitable distance from the spring to avoid or minimize adverse effects to the spring and wetland vegetation from livestock trampling or vehicle access.
- Locate the spring box to allow water to flow by gravity from the spring to the spring box to eliminate disturbance from pumps and auxiliary equipment.
- Design the collection system to avoid, minimize, or mitigate adverse effects to the spring development and downstream waters from excessive water withdrawal, freezing, flooding, sedimentation, contamination, vehicular traffic, and livestock as needed.
    - ♦ Collect no more water than is sufficient to meet the intended purpose of the spring development.
    - ♦ Ensure that enough water remains in the spring to support the source groundwater-dependent ecosystem and downstream aquatic ecosystems.

[2] From Pile Burning Lessons Learned website, https://fireadaptednetwork.org/pile-burning-lessons-learned/

- Avoid or minimize sediment or bacteria from entering the water supply system.
- Trap and remove sediment that does enter the system.
- Intercept the spring flow below the ground surface upslope of where the water surfaces.
- Size the spring box appropriately to store the expected volume of sediment generated between maintenance intervals, to store enough water for efficient operation of the system, and to provide access for maintenance and cleaning.
- Avoid or minimize backing up spring flow by providing overflow relief sized to carry the maximum flow expected from the spring during periods of wet weather.
- Use suitable measures to avoid or minimize erosion at the overflow outlet.
- Maintain fish and wildlife access to water released below a spring development.

- Construct the spring development in such a manner to avoid or minimize erosion, damage to vegetation, and contamination.
  - Divert all surface water away from the spring to the extent practicable to avoid or minimize flooding near the spring development.
  - Use suitable weed-free seed mixes, native plant species, and commonly accepted establishment techniques for wet conditions to cover or revegetate disturbed areas near springs.
- Operate and maintain the spring development and associated water storage in such a manner as to provide water of sufficient quantity and quality for the intended uses and avoid or minimize failure of infrastructure causing concentrated runoff and erosion.
  - Use suitable measures to manage uses such as livestock grazing and vehicle traffic around the spring development to avoid or minimize erosion and sedimentation affecting the spring.
  - Avoid heavy vehicle traffic over the uphill water-bearing layer to avoid or minimize compaction that may reduce water flow.
  - Use suitable measures to avoid or minimize overflow of water trough, tank, or pond.
  - Periodically monitor the spring development and promptly take corrective action for sediment build-up in the spring box, clogging of outlet and overflow pipes, and damage from animals.

Recreation

- Treatment timing limitations will be coordinated to minimize impacts to the recreating public, concession operators, and special use permit holders. This may include a limited operating period from Memorial Day to Labor Day within recreation sites, no project activities or hauling activities on weekends or holidays, or other site-specific considerations.

- Project implementation will be coordinated with Carson National Forest recreation staff, public affairs officer, and law enforcement personnel to ensure the public is well informed of treatment schedules and potential impacts. Provide public notifications of project activities (for example, logging, hauling, prescribed burning) at major access roads, in local newspapers, and online.
- Warnings and other signing, in accordance with Forest Service signing standards, will be provided to provide for public safety.
- Roads will be restricted or temporarily closed in active project areas (in coordination with Carson National Forest staff) to provide for public safety.
- For treatments within developed campgrounds, a recreation specialist will be consulted to identify trees to be maintained for screening, shading, campground aesthetics, and to identify hazard trees for removal.
- Where trail routes (North Boundary nonmotorized trail and Capulin motorized trail) are within or along the boundary of treatment units, or are used as haul routes, the trail routes will be clearly marked and maintained and hazard trees along the trail will be removed. If treatment operations cross or damage the trail tread, the trail will be reestablished to the appropriate design standards when implementation is complete.
- Hand or machine-made fire lines, skid trails, and temporary roads that are visible from or intersect open roads will be obliterated, obscured, or physically blocked to prevent unauthorized off-highway vehicle use.
- Public notification of fuelwood gathering opportunities associated with the project will be provided.
- Following project implementation, the portion of the North Boundary Trail used as a haul route will be restored to its original function as a nonmotorized trail, with limited, administrative motor vehicle use authorized. Additionally, at that time, the parts of the trail that are no longer required for administrative use will be returned or converted to single-track trail.

Visual Quality Management

Standard management requirements for visual quality should be applied within the immediate foreground of sensitive travel routes and use areas (300 feet from the viewer) (Forest Service Manual 2382.1). These include:

- Treatments in the immediate foreground of the Enchanted Circle Scenic Byway (Highway 64), should be natural in appearance, including disposal of all activity-produced slash occurring within the immediate foreground (100 to 300 feet) either during operations or immediately afterwards, as well as revegetation to include 15 percent native wildflower seed within 100 feet of the Enchanted Circle Scenic Byway.
- Post-thinned stands should be predominantly natural in appearance. In areas of roaded natural classification on the recreation opportunity spectrum, modifications may be evident, but should be in harmony with the natural environment. In semi-primitive motorized areas, modifications should blend with the surrounding landscape character.

- Landings and skid trail locations: To the extent feasible, locate landings and primary skid trails away from the immediate foreground of sensitive travel corridors. Limit size of landings so that they are not visually evident from the sensitive travel routes following completion of treatment activities.
- Stump heights: Minimize stump heights in both mechanical and hand-thinning units adjacent to sensitive travel corridors, typically resulting in stumps 6 inches or less in height within 300 feet of the travel corridor.
- Tree marking: During tree marking, open and enhance views of residual old growth trees near the sensitive travel routes and use areas, where possible.
- Target consumption of burn piles to 70 percent or greater.

Heritage

- Prescribed burning: During prescribed burning, a 50-foot protective "black line" will be placed around fire-sensitive historical properties. A black line is created by burning the organic matter and then extinguishing the fire. Heavy fuels will be removed from the site by hand. No staging of equipment within site boundaries will occur. No slash piles within site boundaries will occur. No ignition points within the fire-sensitive site boundaries will occur.
- Thinning, hand treatments: During thinning treatments (by hand), a 50-foot protective buffer or boundary will be placed around historical properties. Hand treatments inside the boundary will be conducted to reduce heavy fuel loading and reduce overall fire effects. No staging of equipment or vehicles will be permitted. No slash piles will be constructed within site boundaries. There will be no dragging of logs, trees, or thinned material across or within site boundaries.
- Thinning, mechanical treatments: During thinning, hand and mechanical treatments, a 50-foot protective buffer or boundary will be placed around historical properties. No mechanical treatments or ground disturbance within the site boundaries will be permitted. No use of vehicles or other mechanized equipment within site boundaries will be permitted. No staging of equipment will be permitted within site boundaries. No slash piles will be constructed within site boundaries. There will be no dragging of logs, trees, or thinned material across or within site boundaries.
- Discovery and education stipulation: All persons associated with operations under this authorization will be informed that any objects or sites of cultural, paleontological, or scientific value such as historical or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If in connection with operations under this authorization any of the above resources are encountered, the proponent will immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the Carson National Forest authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36 CFR 800.110 and 112, 43 CFR 10.4).

Range

- Historical range monitoring sites, including witness trees or posts, one-inch angle iron stakes, and any other site location markers, will be protected. These sites will not be used as locations for temporary access roads, skid trails, landing areas, or large slash piles.
- The sale administrator, presale forester, small sales forester, or a combination will work closely with the district range staff to determine pasture use during harvest activities.
- Commercial skid trail layout will, in most instances, keep equipment on one side of the fence to avoid having to cut fences. Where fences need to be cut, the sale administrator will ensure fences are repaired after implementation in coordination with district range staff.
- Any range fences damaged during noncommercial fuelwood harvesting will be repaired.
- Temporary cattle guards may be installed on haul roads where gates exist within actively grazed pastures. All cattle guards on harvest haul roads will be maintained throughout hauling activities.
- Range and fire managers will coordinate grazing schedules and prescribed fires on allotments within burn units to ensure there is sufficient surface fuel to allow burn objectives to be met. If grazing cannot cease long enough for sufficient fuel to build up to meet objectives, planned prescribed fires will be postponed until there can be sufficient fuel to meet objectives.
- Gates will be closed during implementation to ensure livestock are in the appropriate pasture. Prescribed burns will be smaller and may require coordination with the permittees and are typically done prior to cattle coming into pastures or after they are moved off the pasture.
- Thinning operations will need to maintain the fences along the areas where implementation is occurring. There is enough flexibility in the pasture rotations that rest prior to prescribed fire should not be needed.

Pueblo Ridge Restoration Project Monitoring Requirements

Monitoring could determine if illegal off-highway vehicle use is taking place in areas where treatments have occurred, or along closed, or obliterated roads. If monitoring reveals this is happening, steps could be taken to prohibit the use (signing, barrier installation, increased law enforcement).

Best management practices application and effectiveness will be monitored.

Appendix B. Comparison of Existing Carson Forest Plan Guidelines and Proposed Project-Specific Plan Amendments

Table 2. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for the Mexican spotted owl

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Provide three levels of habitat management- protected, restricted, and other forest and woodland types to achieve a diversity of habitat conditions across the landscape (Carson forest plan, page 87).	Standard: Three levels of habitat management will be provided- protected (protected activity centers), recovery habitat, and other forest and woodland types.
Protected areas include delineated protected activity centers; mixed conifer and pine-oak forests with slopes greater than 40 percent where timber harvest has not occurred in the last 20 years; and reserved lands which include wilderness, research natural areas, wild and scenic rivers, and congressionally recognized wilderness study areas (Carson forest plan, page 87).	Delete
Restricted areas include all mixed-conifer, pine-oak, and riparian forest outside protected areas (Carson forest plan, page 87).	Glossary and Background: Recovery habitat is primarily mixed conifer and riparian forest and rocky canyons that are either currently, or have the potential for becoming nest or roost habitat, or provide or could provide foraging, dispersal, or wintering habitats. Nesting or roosting habitat typically occurs either in well-structured forests with high canopy cover, large trees, and other late seral characteristics, or steep and narrow rocky canyons formed by parallel cliffs with numerous caves, ledges, or both within specific geological formations. Guideline: Twenty-five percent of mixed-conifer in forested recovery habitat should be managed as recovery nest or roost habitat varying by forest type and ecological management unit (EMU) (formerly called recovery units). This habitat should be managed to replace nest or roost habitat lost due to disturbance (for example, fire) or senescence and to provide additional nest or roost habitat to facilitate recovery of the owl. The remainder of forested recovery habitat should be managed for other needs (such as foraging, dispersing, or wintering) provided key habitat elements are retained across the landscape.

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Other forest and woodland types include all ponderosa pine, spruce-fir, woodland, and aspen forest outside protected and restricted areas (Carson forest plan, page 87).	Glossary and Background: Other forest and woodland types include ponderosa pine forest and piñon/juniper woodland that are neither restricted nor within protected activity centers. Guideline: No specific management is suggested for these habitat types. However, management actions should consider the owls' needs and should be compatible with the project's desired conditions of moving towards a sustainable and resilient forest at the landscape scale.
Survey all potential spotted owl areas including protected, restricted, and other forest and woodland types within an analysis area plus the area ½ mile beyond the perimeter of the treatment area (Carson forest plan, page 87).	Standard: The survey area shall include all areas where owls or their habitat might be affected by management actions. If an area is relatively large, it can be subdivided into manageable subunits to achieve the best survey results. In general, the survey area shall include the survey area and a 0.5-mile area from its exterior boundaries. Standard: Within the project area, all areas that contain forested recovery habitat, riparian forest, and canyon habitat or that might support owls will be surveyed as defined in the current recovery plan.
Establish a protected activity center at all Mexican spotted owl sites located during surveys and all management territories established since 1989 (Carson forest plan, page 87).	Standard: A 600-acre activity center will be established using boundaries of known habitat polygons, topographic boundaries (for example, ridgelines), or both, as appropriate. The boundary should enclose the best possible Mexican spotted owl habitat, configured into as compact a unit as possible, with the nest or activity center located near the center. This should include as much roost or nest habitat as is reasonable, supplemented by foraging habitat where appropriate.
Allow no timber harvest except for firewood and fire risk abatement in established protected activity centers. For protected activity centers destroyed by fire, windstorm, or other natural disaster, salvage timber harvest or declassification may be allowed after evaluation on a case-by-case basis in consultation with US Fish and Wildlife Service (Carson forest plan, page 87).	Standard: The project will be designed to meet or move towards the percent basal area by size class and the minimum density of large trees thresholds displayed in table C.3 of the revised recovery plan. Guideline: Management should sustain or enhance desired conditions for the owl, including fire-risk reduction, as well as monitoring owl presence. Guideline: Protection of protected activity centers may require active management in forested habitat to reduce fuel loads and fuel continuity in areas adjacent to and within these areas to reduce potential for high severity and stand-replacement fires. Treatments should be located strategically and informed by fire behavior modeling across the landscape. Guideline: Selective cutting treatments in some protected activity centers may be needed to achieve objectives. To determine which protected activity centers may benefit from prescribed cutting treatments, a landscape-scale analysis should be used to determine where the needs of fire risk reduction and habitat enhancement are greatest. Within the remaining protected activity center acreage (500 acres or more), combinations of prescribed cutting and fire treatments may be used to reduce fire hazard while striving to maintain or improve habitat conditions for the owl and its prey.

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Allow no timber harvest except for fire risk abatement in mixed-conifer and pine-oak forests on slopes greater than 40 percent where timber harvest has not occurred in the last 20 years (Carson forest plan, page 87).	Delete
Limit human activity in protected activity centers during the breeding season (Carson forest plan, page 87).	Guideline: Limit human activity in protected activity centers during the breeding season. Management activities should be deferred from the nest or roost core during the breeding season (1 March – 31 August), except where nonbreeding is confirmed or inferred that year per the accepted survey protocol in the current recovery plan.
In protected and restricted areas, when activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with U.S. Fish and Wildlife Service to resolve the conflict (Carson forest plan, page 87).	Standard: In protected and recovery habitat areas, when activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with U.S. Fish and Wildlife Service personnel to resolve the conflict.

Table 3. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for general guidelines

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Conduct surveys following Region 3 survey protocol (Carson forest plan, page 88).	Standard: Conduct surveys according to the current recovery plan.
Breeding season is March 1 to August 31 (Carson forest plan, page 88).	No change

Table 4. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for protected area guidelines

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Protected Activity Centers: Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification for boundary delineation should be provided (Carson forest plan, page 88).	Guideline: Protected activity centers should encompass a minimum of 600 acres surrounding the core areas which is the nest site, a roost grove commonly used during the breeding season in absence of a verified nest site, or the best roosting or nesting habitat if both nesting and roosting information are lacking (revised recovery plan, pages 8 and 339). Should any deviations in protected activity center acreage occur due to site specific conditions, address during consultation with the U.S. Fish and Wildlife Service.

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
The protected activity center boundary should enclose the best possible owl habitat configured in as compact a unit as possible, with the nest or activity center located near the center (Carson forest plan, page 88).	Delete
The activity center is defined as the nest site. In the absence of a known nest, the activity center should be defined as a roost grove commonly used during breeding. In the absence of a known nest or roost, the activity center should be defined as the best nesting and roosting habitat (Carson forest plan, page 88).	Delete
Protected activity center boundaries should not overlap (Carson forest plan, page 88).	No change
Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys (Carson forest plan, page 88).	Standard: Submit protected activity center maps and descriptions to U.S. Fish and Wildlife Service personnel for comment in a timely manner after completion of surveys.
Road or trail building in protected activity centers should be avoided but may be permitted on a case-by-case basis for pressing management reasons (Carson forest plan, page 88).	Guideline: Road or trail maintenance, repair, and construction in protected activity centers should be undertaken during the nonbreeding season (1 September – 28 February) to minimize disturbance to owls unless nonbreeding is inferred or confirmed that year per the accepted survey protocol (appendix D of the 2012 recovery plan). The construction of new roads in protected activity centers will be minimized.
Generally allow continuation of the level of recreation activities that was occurring prior to listing (Carson forest plan, page 88).	No change
Require bird guides to apply for and obtain a special use permit. A condition of the permit shall be that they obtain a sub-permit under the U.S. Fish and Wildlife Service Master Endangered Species permit. The permit should stipulate the sites, dates, number of visits, and maximum group size permissible (Carson forest plan, page 88).	No change

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Harvest firewood when it can be done in such a way that effects on the owl are minimized. Manage within the following limitations to minimize effects on the owl: Retain key forest species such as oak. Retain key habitat components such as snags and large downed logs. Harvest conifers less than 9 inches in diameter only within those protected activity centers treated to abate fire risk as described below (Carson forest plan, page 88).	No change

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Treat fuel accumulations to abate fire risk: Select for treatment 10 percent of the protected activity centers where nest sites are known in each recovery unit having high fire risk conditions. Also select another 10 percent of the protected activity centers where nest sites are known as a paired sample to serve as control areas. Designate a 100-acre “no treatment” area around the known nest site of each selected protected activity center. Habitat in the no treatment area should be as similar as possible in structure and composition as that found in the activity center. Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel treatment and prescribed fire to abate fire risk in the remainder of the selected protected activity center outside the 100-acre “no treatment” area. Retain woody debris larger than 12 inches in diameter, snags, clumps of broad-leafed woody vegetation, and hardwood trees lager than 10 inches in diameter at the root collar. Select and treat additional protected activity centers in 10% increments if monitoring of the initial sample shows there were no negative impacts or there were negative impacts which can be mitigated by modifying treatment methods. Use light prescribed burns in non-selected protected activity centers on a case-by-case basis. Burning should avoid a 100-acre “no treatment” area around the activity center. Large woody vegetation should be retained and hardwood trees larger than 10 inches diameter at the root collar. Pre- and post-treatment monitoring should be conducted in all protected activity centers treated for fir abatement (see monitoring guidelines).	Standard: Activities will be consistent with the 2012 Mexican spotted owl recovery plan, in consultation with U.S. Fish and Wildlife Service personnel. Guideline: Within protected activity centers, combinations of thinning trees up to 17.9 inches in diameter at breast height, mechanical fuel treatment, and prescribed fire should be used to abate fire risk to owl nest or roost habitats and improve habitat structure in select protected activity center outside the 100-acre core area. Low-intensity prescribed fire should be used within select 100-acre core area to eliminate the need for fireline construction.
Steep slopes (Mixed-conifer and pine-oak forests outside protected activity centers with slopes greater than 40 percent that have not been logged within the past 20 years): No seasonal restrictions apply (Carson forest plan, page 88).	Delete

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Treatment fuel accumulations to abate fire risk: Use combination of thinning trees less than 9 inches in diameter, mechanical fuel removal, and prescribed fire. Retain woody debris larger than 12 inches in diameter, snags, clumps of broadleafed woody vegetation, and hardwood trees larger than 10 inches in diameter at the root collar. Select and treat additional protected activity centers in 10% increments of monitoring of the initial sample shows there were no negative impacts or there were negative impacts which can be mitigated by modifying treatment methods. Use light prescribed burns on non-selected protected activity centers on a case-by-case basis. Burning should avoid a 100-acre “no treatment” area around the activity center. Large woody debris, snags, clumps of broad-leafed woody vegetation should be retained and hardwood trees larger than 10 inches diameter as the root collar. Pre and post treatment monitoring should occur within all steep slopes treated for fire rick abatement. (See monitoring guidelines) (Carson forest plan, page 89)	Delete
Reserved Lands (Wilderness, Research Natural Areas, Wild and Scenic Rivers, and Congressionally Recognized Wilderness Study Areas): Allow prescribed fire where appropriate (Carson forest plan, page 89).	No change
Restricted Area Guidelines (Mixed-Conifer, pine-oak, riparian forests and rocky canyons) (Carson forest plan, page 89).	C. Recovery area guidelines (mixed conifer, riparian forests, and rocky canyons)

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Mixed-conifer and pine-oak forests (See glossary definition): Manage to ensure a sustained level of owl nest or roost habitat well distributed across the landscape. Create replacement owl nest or roost habitat where appropriate while providing a diversity of stand conditions across the landscape to ensure habitat for a diversity of prey species. The following table displays the minimum percentage of restricted area which should be managed to have nest or roost characteristics. The minimum mixed conifer restricted area includes 10% at 170 basal area and an additional amount of area at 150 basal area is +10% in BR-E and +15% in all other recovery units. The variables are for stand averages and are minimum threshold values and must be met simultaneously. In project design, no stands simultaneously meeting or exceeding the minimum threshold values should be reduced below the threshold values unless a district-wide or larger landscape analysis of restricted area shows that there is a surplus of restricted area acres simultaneously meeting the threshold values. Management should be designed to create minimum threshold conditions on project areas where there is a deficit of stands simultaneously meeting minimum threshold conditions unless the district-wide or larger landscape analysis shows there is a surplus. (Carson forest plan, page 89).	Desired Condition: Mixed conifer and pine-oak forests (see glossary definition) have a sustained level of owl nesting and roosting habitat that is well distributed across the landscape. Replacement owl nesting and roosting habitat is available and there are diverse stand conditions across the landscape that ensure habitat diversity of prey species. Standard: Treatments are allowed within recovery habitat stands identified as meeting nest or roost conditions, as long as stand conditions remain at or above the values given in table C.3 of the revised recovery plan. This approach allows treatments to reduce fire risks, lessen insect or disease problems, maintain seral species, or meet other ecosystem objectives. Guideline: The percentages of area in table C.3 of the revised recovery plan are the minimum levels for Mexican spotted owl recovery habitat. If deficit occurs, additional stands should be identified and managed in alignment with table C.3. Even if the proportion of the planning area that meets nest or roost condition is greater than the percentages in table C.3, no stands should be lowered below these conditions until assessments at larger spatial scales (for example, landscape, subregion, and region) demonstrate desired conditions occur in recommended amounts at these larger scales. Using watersheds in allocating percentages of area to manage for nest or roost conditions should reduce the potential for creating excessively fragmented nesting habitat. Guideline: Emphasize attainment of nest or roost conditions as quickly as reasonably possible. Identify and assign stands that will reach these conditions soonest to satisfy area requirements in table C.3 of the revised recovery plan. Guideline: Natural variation, such as irregular tree spacing and various stand, patch, group, or clump sizes, should be incorporated into management prescriptions. Strive for heterogeneity both within and between stands.
Attempt to mimic natural disturbance patterns by incorporating natural variation, such as irregular tree spacing and various patch sizes, into management prescriptions (Carson forest plan, page 89).	Guideline: Design treatments to mimic natural disturbance patterns and natural landscape heterogeneity. Allow natural canopy gap processes to occur or mimic those processes by designing treatments to produce horizontal variation in stand structure.
Maintain all species of native trees in the landscape including early seral species (Carson forest plan, page 89).	Guideline: Maintain all species of native vegetation on the landscape, including early seral species. Allow for variation in existing stand structures and provide for species diversity (revised recovery plan, p. 268).
Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure (Carson forest plan, page 89).	Delete

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Emphasize uneven-aged management systems. However, both even-aged and uneven-aged systems may be used where appropriate to provide variation in existing stand structure and species diversity. Existing stand conditions will determine which system is appropriate (Carson forest plan, page 89).	Desired Condition: Patches of even-aged forest structure are present but infrequent. Disturbances sustain the overall variation in age and structural distribution. Guideline: Incorporate natural variation, such as irregular tree spacing and various stand, patch, group, or clump sizes, into management prescriptions. Strive for heterogeneity both within and between stands. Address analysis questions from box C 5 in the current recovery plan before widescale implementation of management based on even-aged clumps.
Extended rotation ages for even-aged stands to greater than 200 years. Silvicultural prescriptions should explicitly state when vegetation manipulation will cease until rotation age is reached (Carson forest plan, page 89).	Delete
Save all trees greater than 24 inches in diameter at breast height. In pine-oak forests, retain existing large oaks and promote growth of additional large oaks (Carson forest plan, page 90).	Guideline: Strive to retain trees greater than 24 inches.
Encourage prescribed and prescribed natural fire to reduce hazardous fuel accumulation. Thinning from below may be desirable or necessary before burning to reduce ladder fuels and the risk of crown fire (Carson forest plan, page 90).	No change
Retain substantive amounts of key habitat components: Snags 18 inches in diameter and larger Down logs over 12 inches midpoint diameter Hardwoods for retention, recruitment, and replacement of large hardwoods (Carson forest plan, page 90).	Table C.3 of the revised recovery plan provides the minimum desired conditions for basal area in standing live trees in ponderosa pine and mixed conifer. Follow forest plan guidelines for snags, down logs, and coarse woody debris in ponderosa pine and mixed conifer.
No corresponding language	Forest Recovery Foraging or Nonbreeding Habitat Guideline: Design treatments needed to meet fuels and restoration management objectives in recovery habitats to minimize short-term losses of habitat components in areas that could be occupied by spotted owls.

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Riparian Areas: Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should move degraded riparian vegetation toward good condition as soon as possible. Damage to riparian vegetation streambanks, and channels should be prevented (Carson forest plan, page 90).	Background and Description: Riparian recovery habitat consists of riparian forests outside protected activity centers that could frequently be used by owls for foraging, roosting, daily movements, dispersal, and potentially for nesting. Riparian recovery habitat is considered to be key habitat for owl recovery. Desired Condition: Riparian recovery habitat is managed for proper functioning condition and attains the highest ecological status and potential natural community structure (mid- to late-seral conditions) possible within the capability and potential of the site. Attaining goals that are dependent on site potential benefits owl habitat by regenerating riparian tree cover and benefits its prey species by providing dense ground cover for small mammals). Guideline: Treatments should provide a diversity of age and size classes of native riparian trees and shrubs along with a diverse understory of native riparian herbaceous species to provide potential roost or nest sites for owls and cover for owl prey species. Guideline: Thinning trees and shrubs should be encouraged where such thinning restores properly functioning condition and improves the habitat or protects it against stand-replacing fire.
Old-Growth- except where otherwise noted, implement forest plan old growth standards and guidelines to maintain and promote development of owl habitat (Carson forest plan, page 90).	No change
D. Other Forest and Woodland Types- Apply ecosystem approaches to manage for landscape diversity mimicking natural disturbance patterns, incorporating natural variation in stand conditions and retaining special features such as snags and large trees, utilizing appropriate fires, and retention of existing old growth in accordance with forest plan old growth standards and guidelines (Carson forest plan, page 90).	No change
E. Guidelines for Specific Recovery Units Upper Gila Mountains. No special additional guidelines apply (Carson forest plan, page 90)	No change

Table 5. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for the monitoring guidelines

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Monitoring and evaluation should be collaboratively planned and coordinated with involvement from each National Forest, U.S. Fish and Wildlife Service Regional Office, FS Regional Office, Rocky Mountain Research Station, recovery team, and recovery unit working groups (Carson forest plan, page 90).	Monitoring and evaluation should be collaboratively planned and coordinated with involvement from each national forest, U.S. Fish and Wildlife Service Ecological Service Field Office, U.S. Fish and Wildlife Service Regional Office, Forest Service Regional Office, Rocky Mountain Research Station, recovery team, and recovery unit working groups. Monitoring will be consistent with the most current Mexican spotted owl recovery plan.
Population monitoring should be a collaborative effort with participation of all appropriate resource agencies (Carson forest plan, page 90).	See previous standard
Habitat monitoring of gross habitat changes should be a collaborative effort of all appropriate resource agencies (Carson forest plan, page 90).	See previous standard
Habitat monitoring of treatment effects (pre- and post-treatment) should be done by the agency conducting the treatment. (Carson forest plan, page 90).	See previous standard
Prepare an annual monitoring and evaluation report covering all levels of monitoring done in the previous year. The annual report should be forwarded to the regional forester with copies provided to the recovery unit working groups, U.S. Fish and Wildlife Service Ecological Services field offices, and the U.S. Fish and Wildlife Regional Office (Carson forest plan, page 90).	See previous standard

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Rangewide: Track gross changes in acres of owl habitat resulting from natural and human-caused disturbances. Acreage changes in vegetation composition, structure, and density should be tracked, evaluated, and reported. Remote sensing techniques should provide an adequate level of accuracy. In protected and restricted areas where silvicultural or fire abatement treatment are planned, monitor treated stands pre- and post-treatment to determine changes and trajectories in fuel levels; snag basal areas; live tree basal areas; volume of down logs over 12 inches in diameter; and basal area of hardwood trees over 10 inches in diameter at the root crown (Carson forest plan, page 90).	See previous standard

Table 6. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for management scale

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Distribution of habitat structures (tree size and age classes, tree groups of different densities, snags, dead and down woody material, etc.) should be evaluated at the ecosystem management area level, at the mid-scale such as drainage, and at the small scale of site (Caron forest plan, amendment 11, page 92).	Distribution of habitat structures (tree size and age classes, tree density, snags, dead and down woody material, etc.) should be evaluated at the project level to best inform project planning and design.
No similar direction in forest plan.	Where large trees, generally over 24 inches in diameter at breast height, are deficient within the ecosystem management area, all large trees, generally over 24 inches in diameter at breast height, will be maintained regardless of location, except in situations when occasional trees may be removed to provide for understory health and development. For example, the exemption might be used to protect young tree groups from diseased overstory trees. Threats to public health and safety will be another example when this exception is exercised. However, over time, the intent is to sustain a relatively even distribution (based on site quality) of large trees, generally over 24 inches in diameter at breast height, across the ecosystem management area.

Vegetation Management Related to Northern Goshawk Management

Table 7. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for landscapes outside goshawk post-fledging family areas

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
No similar direction in forest plan.	General: Within ponderosa pine and dry mixed conifer stands, manage over time for uneven-aged stand conditions composed of heterogeneous mosaics of tree groups and single trees, with interspaces between tree groups. The size of tree groups, as well as sizes and shapes of interspaces, should be variable. Over time, the spatial location of the tree groups and interspaces may shift within the uneven-aged stand.
General: The distribution of vegetation structural stages for ponderosa pine, mixed conifer and spruce-fir forests is 10% grass/forb/shrub (VSS 1), 10% seedling-sapling (VSS 2), 20% young forest (VSS 3), 20% mid-aged forest (VSS 4), 20% mature forest (VSS 5), 20% old-forest (VSS 6). Note: the specified percentages are a guide and actual percentages are expected to vary + or - up to 3%. (Carson forest plan, page 92)	Desired conditions for ponderosa pine and dry mixed conifer vegetation structure: At the landscape scale (10,000 acres and greater), the ponderosa pine and dry mixed conifer forest is a mosaic of structural states ranging from young to old trees. Forest structure is variable but uneven-aged and open in appearance. Sporadic areas of even-aged structure may be present on 10 percent or less of the landscape to provide structural diversity. At the mid-scale (100 to 1,000 acres), the ponderosa pine forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. The tree group mosaic composes an uneven-aged forest with all age class and structural stages present. Occasionally, patches of even-aged forest structure are present (less than 50 acres). Disturbances sustain the overall age and structural distribution. Northern goshawk post-fledging areas should have 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. Goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. At the fine scale (less than 10 acres) typically trees occur in irregularly shaped groups and are variably spaced with some tight clumps. Tree crowns in the mid- to old-aged groups are interlocking, providing for species that require these forest structure conditions. Interspaces surrounding tree groups are variably shaped and composed of a grass, forb, and shrub mix. Some may contain individual trees or snags.

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
The distribution of VSS, tree density, and tree age are a product of site quality in the ecosystem management area. Use site quality to guide in the distribution of VSS, tree density and tree ages. Use site quality to identify and manage dispersal PFA and nest habitat at 2 to 2.5 mile spacing across the landscape. (Carson forest plan, page 92)	See desired conditions for ponderosa pine and dry mixed conifer.
Snags are 18 inches or larger in diameter at breast height and 30 feet or larger in height, downed logs are 12 inches in diameter and at least 8 feet long, woody debris is 3 inches or larger on the forest floor, canopy cover is measured with vertical crown projection on average across the landscape. (Carson forest plan, page 92)	Desired Condition: In ponderosa pine and dry mixed conifer, snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. Coarse woody debris, including logs, may range from 5 to 15 tons per acre. Logs may average 3 per acre within the forested area of the landscape. Guideline: Snags should be retained in the largest diameter classes available as needed to meet wildlife or other resource needs.
No corresponding forest plan direction	Guideline: Tree group spatial distribution may be highly variable based on the local site and current conditions; the interspaces between groups should range from 20 to 200 feet but generally between 25 and 100 feet from drip line to adjacent dripline. This spacing of groups is not affected by single trees in the interspace.
No corresponding forest plan direction	Guideline: At the landscape scale and mid-scale, the number of tree per group and number of groups per area should vary across the landscape. Collectively these stands should aggregate to uneven-aged forest landscapes, similar to natural conditions.
The order of preferred treatment for woody debris is: 1) prescribed burning, 2) lopping and scattering, 3) hand piling or machine grapple piling, 4) dozer piling. (Carson forest plan, page 92)	No change
Canopy Cover: Canopy cover guidelines apply only to mid-aged to old forest structural stages (VSS 4, VSS 5, and VSS 6) and not to grass/forb/shrub to young forest structural stages (VSS 1, VSS 2, and VSS 3). (Carson forest plan, page 92)	This language will be deleted because the desired conditions are to manage for mature tree groups with interlocking or nearly interlocking crowns. See desired conditions for ponderosa pine and dry mixed conifer in northern goshawk habitat at 3 scales.
Spruce-Fir: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60% and 2/3 40% mature forest (VSS 5) should average 60+% , and old forest (VSS 6) should average 60+%. Maximum opening size is 1 acre with a maximum width of 125 feet. Provide 2 groups of reserve trees per acre with 6 trees per group when opening size exceeds 0.5. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre. (Carson forest plan, page 92)	No change

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
Mixed Conifer: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60+% and 2/3 40+%, mature forest (VSS 5) should average 50+%, and old forest (VSS 6) should average 60+%. Maximum opening sizes up to 4 acres with a maximum width of up to 200 feet. Retain1 group of reserve trees per acre of 3-5 trees per group for openings greater than 1 acre in size. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre. (Carson forest plan, pages 92-93)	This language will be deleted because the desired conditions are to manage for mature tree groups with interlocking or nearly interlocking crowns. See desired conditions for ponderosa pine and dry mixed conifer in northern goshawk habitat at 3 scales. Stand density index, trees per acre, and basal area will be used to define canopy closure or openness (canopy relationships).
Ponderosa Pine: Canopy cover for mid-aged forest (VSS 4) should average 40+%, mature forest (VSS 5) should average 40+% and old forest (VSS 6) should average 40+%. Opening size is up to 4 acres with a maximum width of up to 200 feet. 1 group of reserve trees, 3-5 trees per group, will be left if the opening is greater than an acre in size. Leave at least 2 snags, 3 downed logs, and 5-7 tons of woody debris per acre. (Carson forest plan, page 93)	This language will be deleted because the desired conditions are to manage for mature tree groups with interlocking or nearly interlocking crowns. See desired conditions for ponderosa pine and dry mixed conifer in northern goshawk habitat at 3 scales. Stand density index, trees per acre, and basal area will be used to define canopy closure or openness (canopy relationships).
Woodland: manage for uneven age conditions to sustain a mosaic of vegetation densities (overstory and understory), age classes, and species composition well distributed across the landscape. Provide for reserve trees, snags, and down woody debris. (Carson forest plan, page 93)	No change

Table 8. A comparison of existing Carson forest plan direction and proposed project-specific plan amendments for landscape inside goshawk post-fledging family areas

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
General: Provide for a healthy sustainable forest environment for the post-fledgling family needs of goshawks. The principle difference between "within the post-fledgling family area" and "outside the post-fledgling family area" is the higher canopy cover within the post-fledgling family area and smaller opening size within the post-fledgling family area. Vegetative structural stage distribution and structural condition are the same within and outside the post-fledgling family area. (Carson forest plan, page 93)	General: Provide a healthy sustainable forest environment for the post-fledging family needs of goshawks. The principal difference between within the post-fledging family area and outside the post-fledging family area is higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and surrounding forest.

Existing Guideline Language Carson Land and Resource Management Plan (1996 Update)	Proposed New Project-Specific Guideline Language
No similar direction in forest plan.	Canopy cover is measured with vertical crown projection within mid-aged to old forest structural stages groups (generally larger than 12 inches in diameter at breast height) and not within grass/forb/shrub to young forest structural stage groups (generally trees less than 12 inches in diameter at breast height) or in interspaces, natural meadows and grasslands, or other areas not managed for forest conditions.
Spruce-fir: Canopy Cover for mid-aged forest (VSS 4) should average 60+ percent and for mature (VSS 5) and old forest (VSS 6) should average 70+ percent. (Carson forest plan, page 93)	No change
Mixed Conifer: Canopy Cover for mid-aged (VSS 4) to old forest (VSS 6) should average 60+ percent. (Carson forest plan, page 93)	This language will be deleted because the desired conditions are to manage for mature tree groups with interlocking or nearly interlocking crowns. See desired conditions for ponderosa pine and dry mixed conifer in northern goshawk habitat at 3 scales. Stand density index, trees per acre, and basal areas will be used to define canopy closure or openness (canopy relationships).
Ponderosa Pine: Canopy Cover for mid-aged forest (VSS 4) should average 1/3 60+ percent and 2/3 50+ percent. Mature (VSS 5) and old forest (VSS 6) should average 50+ percent. (Carson forest plan, page 93)	This language will be deleted because the desired conditions are to manage for mature tree groups with interlocking or nearly interlocking crowns. See desired conditions for ponderosa pine and dry mixed conifer in northern goshawk habitat at 3 scales. Stand density index, trees per acre, and basal area will be used to define canopy closure or openness (canopy relationships).

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